UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/556,222	11/09/2005	Thomas Leichter	12604/17	3690

26646 7590 09/27/2007

KENYON & KENYON LLP
ONE BROADWAY
NEW YORK, NY 10004

EXAMINER	
HO, HA DINH	
ART UNIT	**PAPER NUMBER**
3681	

NOTIFICATION DATE	DELIVERY MODE
09/27/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@kenyon.com

Office Action Summary	Application No.	Applicant(s)	
	10/556,222	LEICHTER ET AL.	
	Examiner	Art Unit	
	Ha D. Ho	3681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *18-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *18-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/9/05 & 6/20/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This is the first Office Action on the merits of Application No. 10/556,222 filed on 11/09/05. Claims 18-38 are currently pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 18-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Hiegemann (US 6,358,172).

Regarding claim 18, Hiegemann shows a compact drive (see Fig. 1), comprising: an electric motor 21; a transmission 3; and a frequency converter 20; wherein an output shaft 51 of the transmission and a rotor shaft 22 of the electric motor are arranged in parallel, a shaft-center distance determined in accordance with at least one transmission stage (24, 30, 33, 38).

Regarding claim 19, wherein the at least one transmission stage includes a spur-gear transmission stage (33, 38).

Regarding claim 20, wherein the at least one transmission stage includes a variable transmission (transmission 3 is a variable transmission).

Regarding claim 21, wherein the at least one transmission stage includes one of (a) a continuously variable, wide-belt transmission and (b) a chain drive (transmission 3 is a continuously variable transmission).

Regarding claim 22, wherein the electric motor includes at least one of (a) a synchronous motor and (b) a permanent-magnet motor (the electric motor 21 has a permanent magnet inherently).

Regarding claim 23, wherein the frequency converter is arranged laterally with respect to the rotor shaft (see Fig. 1).

4. Claims 18, 21, 22 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Aulanko et al (US 5,950,797).

Regarding claim 18, Aulanko et al show a compact drive (see Fig. 2), comprising: an electric motor 6; a transmission (20, 22, 24, 26); and a frequency converter (see col. 1, line 48); wherein an output shaft 26 of the transmission and a rotor shaft (the shaft that the sprocket mounted thereon) of the electric motor are arranged in parallel, a shaft-center distance determined in accordance with at least one transmission stage (20, 22, 24).

Regarding claim 21, wherein the at least one transmission stage includes one of (a) a continuously variable, wide-belt transmission and (b) a chain drive (transmission is a chain drive).

Regarding claim 22, wherein the electric motor includes at least one of (a) a synchronous motor and (b) a permanent-magnet motor (the electric motor 21 has a permanent magnet).

Regarding claim 28, wherein the rotor shaft and at least one shaft of the transmission are supported in a same housing part 30.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 18-20, 24, 25, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson (US 5,568,858) in view of Aulanko et al (US 5,950,797).

Regarding claim 18, Thompson shows a compact drive (see Fig. 6), comprising: an electric motor 28; and a transmission (34, 78, 80, 82); wherein an output shaft 34 of the transmission and a rotor shaft 30 of the electric motor are arranged in parallel, a shaft-center distance determined in accordance with at least one transmission stage (78, 80, 82).

Thompson does not show the compact drive including a frequency converter.

Aulanko et al show a compact drive including a frequency converter (see paragraph 4 above).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the compact drive of Thompson to have a frequency converter in view of Aulanko et al in order to allow advantageous speed control (col. 1, lines 48-49).

Regarding claim 19, according to Thompson, wherein the at least one transmission stage includes a spur-gear transmission stage (78, 80, 82).

Regarding claim 20, according to Thompson, wherein the at least one transmission stage includes a variable transmission (transmission is a variable transmission).

Regarding claim 24, according to Thompson, wherein a transmission region 66 of the compact drive is sealed (by seals 68) with respect to the environment, with respect to a region of the electric motor (the chamber containing motor 28, shaft 30 and gearing 61, 63 and 65) and with respect to an electronics compartment (the chamber containing motor 28 including coils and magnetic).

Regarding claim 25, according to Thompson, wherein a transmission region (the chamber containing shaft 30 and gearing 61, 63 and 65) of the compact drive, a region of the electric motor (the chamber containing motor 28, shaft 30 and gearing 61, 63 and 65) and an electronics compartment (the chamber containing motor 28 including coils and magnetic) are at approximately a same temperature level.

Regarding claim 31, Thompson further shows a housing including at least one housing part 26 and at least one housing cover 24.

Regarding claim 32, Thompson further shows a housing including two housing parts 22, 26 and one housing cover 24.

7. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiegemann (US 6,358,172) in view of Fujikawa et al (US 6,492,742).

Hiegemann does not show the electric motor including a sensor including a resolver stator and a resolver rotor.

Fujikawa et al show an electric drive system having a motor 5 including a sensor including a resolver stator and a resolver rotor see abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the compact drive of Hiegemann to have a sensor including a resolver stator and a resolver rotor in view of Fujikawa et al in order to accurately detect the rotational position of the motor and prevent the wave noise produced by the stator coil (col. 2, lines 41-48).

8. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hiegemann (US 6,358,172) in view of Schmitter (US 3,149499).

Hiegemann does not show the output shaft including three shaft-sealing rings.

Schmitter show motor drive system having a motor (col. 1, line 17) for driving a transmission having an output shaft 35 which includes three shaft-sealing rings 46.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the compact drive of Hiegemann to have the output shaft including three shaft-sealing rings in view of Schmitter in order seal the enclosure to prevent loss of lubricant and ingress of foreign matter (col. 3, lines 34-37).

9. Claims 18-22, 26, 28, 29 and 31-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohnuma (EP 1231701) in view of Aulanko et al (US 5,950,797).

Regarding claim 18, Ohnuma shows a compact drive (see Fig. 1), comprising: an electric motor 1; and a transmission 6; wherein an output shaft 6a of the transmission and a rotor shaft 3a of the electric motor are arranged in parallel, a shaft-center distance determined in accordance with at least one transmission stage (meshed gears of transmission 6).

Ohnuma does not show the compact drive including a frequency converter.

Aulanko et al show a compact drive including a frequency converter (see paragraph 4 above).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the compact drive of Ohnuma to have a frequency converter in view of Aulanko et al in order to allow advantageous speed control (col. 1, lines 48-49).

Regarding claim 19, according to Ohnuma, wherein the at least one transmission stage includes a spur-gear transmission stage (meshed gears of transmission 6).

Regarding claim 20, according to Ohnuma, wherein the at least one transmission stage includes a variable transmission (transmission 6 is a variable transmission).

Regarding claim 21, according to Ohnuma, wherein the at least one transmission stage includes one of (a) a continuously variable, wide-belt transmission and (b) a chain drive (transmission 6 is a continuously variable transmission).

Regarding claim 22, according to Ohnuma, wherein the electric motor includes at least one of (a) a synchronous motor and (b) a permanent-magnet motor (the electric motor 1 has a permanent magnet inherently).

Regarding claim 26, according to Ohnuma, wherein the electric motor includes a sensor 70.

Regarding claim 28, according to Ohnuma, wherein the rotor shaft and at least one shaft of the transmission are supported in a same housing part (the middle wall housing).

Regarding claim 29, according to Ohnuma, wherein the rotor shaft includes a single shaft-sealing ring 10.

Regarding claim 31, Ohnuma further shows a housing including at least one housing part 5 and at least one housing cover 7.

Regarding claim 32, Ohnuma further shows a housing including two housing parts 5, 5a and one housing cover 7.

Regarding claim 33, Ohnuma further shows electrical connection terminals 420 for load leads arranged on a housing part of the compact drive.

Regarding claim 34, Ohnuma further shows at least one electronic circuit 410 adapted to at least one of (a) modulate and (b) demodulate information onto the load leads.

Regarding claim 35, Ohnuma further shows a housing including at least one region having peaks and depressions 501 adapted to at least one of (a) drain off liquids and (b) dissipate heat.

Regarding claim 36, wherein the peaks and depressions 501 include at least one of (a) grooves and (b) corrugations.

Regarding claims 37 and 38, wherein a resistance to heat transfer from power electronics of the electronic circuit through a corrugated region 501 of a housing of the compact drive to ambient air is less than a resistance to heat transfer from the power electronics through a planar region 530 of the housing to ambient air.

Information Disclosure Statement

10. The information disclosure statement filed 11/09/05 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. The second to fifth and the seventh foreign patent documents listed in the IDS submitted 11/09/05 are not received.

Communication

11. Submission of your response by facsimile transmission is encouraged. The fax phone numbers for the organization where this application or proceeding is assigned are **(571) 273-8300**. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see M.P.E.P. 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check should not be submitting by facsimile transmission separately from the check. Responses submitted by facsimile transmission should include a Certificate of Transmission (M.P.E.P.. 512). The following is an example of the format the certification might take:

> I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office on _____
> (Date)
> Typed or printed name of person signing this certificate:
> _____
> _____
> (Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and M.P.E.P.. 502.02). Please do not separately mail the original or another copy unless required by the Patent and

Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ha D. Ho whose telephone number is **571-272-7091**. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on **571-272-7095**.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/HDH/
(571) 272-7091
September 18, 2007

/Ha D. Ho/
Primary Examiner, A.U. 3681